



**New England  
Aquarium**

## **MARINE SCIENTISTS CHALLENGE NOAA, GOVERNMENT TO ENFORCE ENDANGERED SPECIES ACT**

*Management practices must change for North Atlantic  
right whales: deaths outnumber births annually.*

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**IMAGES:** High quality images of rights whales available via e-mail and on-line, including images of entanglements and ship strike injuries.  
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**BOSTON.** Senior researchers within the marine science community have issued a challenge to the United States government to enforce the Endangered Species Act.

The North Atlantic right whale is at serious risk of extinction and is not receiving adequate protection under the Endangered Species Act, as reported in the Friday, July 22 issue of the journal *Science* by marine scientists from the New England Aquarium.

Despite protection under both the League of Nations (1935) and the Endangered Species Act (1973), right whales have not recovered from intensive whaling practices, and remain one of the most endangered whales in the world. Scientists estimate that less than 350 North Atlantic right whales remain alive today, and that populations are declining by at least two percent per year.

Today, the whales are most threatened by ship strikes and fishing gear entanglements. Of the 50 dead right whales reported since 1986, at least half were killed by one of these human-induced causes. "These animals rarely get the chance to die a natural death," says Dr. Michael Moore, Woods Hole Oceanographic Institution veterinarian and coauthor of the *Science* article.

The Endangered Species Act was created in 1973 to conserve the ecosystems upon which endangered and threatened species depend, and to conserve and recover listed species. The list currently contains more than 1,200 species, including mammals, birds, reptiles, amphibians,

fishes, mollusks, crustaceans, insects, arachnids and plants. Critics cite a low rate of success for the Endangered Species Act, pointing to the small number of species that have been removed from the list over the years. Proponents disagree, and note that very few of the listed species have actually gone extinct.

### ***Right whale deaths exceed births annually***

This call to action follows a near-record calving year. A total of 28 right whale calves were identified in the 2005 calving season, the second highest birth rate on record. However, the authors caution against a false sense of security, and cite a mortality rate that far exceeds the birth rate. “Despite good calving years, our population models suggest that there are still more whales dying than being born every year,” says Scott Kraus, lead author and senior scientist at the New England Aquarium.

In the past 16 months, there have been eight recorded right whale deaths. Yet, population models cited in the *Science* article indicate that only 17 percent of right whale deaths are detected each year, leaving 83 percent undiscovered. According to this model and based upon the known deaths, as many as 47 right whales may have died in the past 16 months, only eight of which have been detected. Based upon these figures, the North Atlantic right whale population may have declined by as much as 13 percent in the past 16 months.

Of the eight known right whale deaths, at least six were reproductive females, and three were carrying near-term fetuses. Right whales do not breed until they are approximately 10 years old, and many females never bear a single calf—only 84 females in the entire population of 350 individuals are known to be reproductively active. This means that at least 7 percent of the breeding females in the North Atlantic right whale population have died in the last 16 months. Whale researchers emphasize that the loss of females has a cascading effect on the future of the population, particularly with proven mothers. The loss of six reproductively active females is a devastating blow for the most endangered large whale species in the world.

On average, approximately half of all known right whale deaths can be attributed to human activities. At least four of the eight known right whales deaths were caused by human actions—three due to collisions with ships, and one by a fishing gear entanglement. A fifth whale was probably killed by a ship, and cause of death could not be determined for the remaining three whales. This human-induced mortality rate provides clear evidence that current management practices have been woefully inadequate, according to the authors. If nothing is done soon, says Kraus, the North Atlantic right whale could be consigned to extinction. “We really could be watching an extinction occur in our lifetime due to our inaction.”

The National Oceanic and Atmospheric Administration (NOAA) Fisheries Service is charged by both the Endangered Species Act and the Marine Mammal Protection Act to ensure that there is no human-induced mortality of right whales. However, their proposals for conservation measures have been hampered by politics, industry resistance and other governmental agencies. New England Aquarium senior right whale researcher, Amy Knowlton, argues that the current management practices are not effective, asking “How long will this go on before the government takes the action that it needs to take?”

### ***Emergency measures may be only hope for endangered right whales***

The authors urge immediate changes to right whale management practices. They recommend implementing emergency measures to reduce speeds and reroute commercial and military ships, a change that would significantly reduce the number of vessel collisions and ship strike deaths each year. Additionally, the authors emphasize that lines associated with fixed fishing gear should be modified or eliminated throughout the right whale's range in order to minimize entanglement injuries and deaths.

The Mid-Atlantic region is known as an urban or industrial ocean, due to the extreme amounts of commercial and recreational ship traffic and fishing pressure. Shipping lanes are so dense with traffic in some areas that they resemble congested highways. The annual right whale migration passes directly through some of the most heavily used areas of the Mid-Atlantic and surrounding environs. According to Kraus, "The worst place to be is within 30 miles of the shore, and that is where the whales are. They are traveling in the most vulnerable area to ship strikes and entanglements, and the population is getting hit extremely hard."

The researchers recommend that vessels travel at 10 knots or less when within 30 miles of the coast. The slower speed gives the whales time to react to approaching vessels. "It's like a squirrel trying to cross the road," says Kraus. "If you are driving down the road at 65 miles per hour, the squirrel is dead. But, if you are driving slowly, the squirrel has a chance." Despite this apparent urgency, the Coast Guard has recently refused to issue voluntary speed restrictions, citing concerns for federal security and human safety.

New England Aquarium scientists are deeply frustrated with the regulatory process required for the protection of right whales. According to Knowlton, "Some valuable and potentially effective ideas have been developed. However, these ideas have yet to become regulations and languish in a bureaucratic maze."

The authors assert that delays in the implementation of emergency measures ignore both scientific and legal mandates to protect the critically endangered North Atlantic right whale, and could be consigning the species to extinction. "This is a crisis that cannot continue unless we as a society are willing to accept our role in the extinction of this species," says Knowlton.

"North Atlantic Right Whales in Crisis" appears in the July 22 issue of *Science*, a weekly publication of the American Association for the Advancement of Science. *Science* is considered a leading international forum for the presentation and discussion of important issues related to the advancement of science. The authors include Scott Kraus, Moira Brown, Philip Hamilton, Amy Knowlton and Rosalind Rolland of the New England Aquarium; Hal Caswell and Michael Moore of Woods Hole Oceanographic Institution; Christopher Clark of Cornell University; Masami Fujiwara of the University of California, Santa Barbara; Robert Kenney of the University of Rhode Island; Scott Landry and Charles Mayo of the Provincetown Center for Coastal Studies; William McLellan and D. Ann Pabst of the University of North Carolina, Wilmington; Douglas Nowacek of Florida State University; and Andrew Read of Duke University.

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